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Inverse boundary value problem of aerohydrodynamics for an axisymmetric body with blowing from an annular channel

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Abstract

A numerical-analytical method is developed for determining the shape of a streamlined with jet blowing axisymmetric body from a given velocity distribution along its meridional section. Numerical result examples are given. Forces, which are influence on axisymmetric body, are calculated. Comparisons of aerodynamic characteristics for bodies with different location of annular channel are carried out. © 2012 Pleiades Publishing, Ltd.

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Keywords

annular channel, axisymmetric body, ideal incompressible fluid, inverse boundary value problem of aerohydrodynamics, iterative process, jet